

TÍTULO: IDENTIFICATION OF NON-FERMENTING GRAM-NEGATIVE BACILLI IN COSMETICS

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Cosmetics are products for cleaning, perfuming, changing the appearance, protecting and correcting imperfections, whose formulations are designed in order to be used up to 36 months, however, they are prone to secondary contamination, which favors biodeterioration processes and also may cause infections. Microbes are inoculated in cosmetics through direct manipulation and they come from the skin or mucosa microbiota as well as the environment to which the product are exposed. The aim of this work was to isolate Non-fermenting Gram-negative bacilli (NFGNB) strains from the cosmetics packages collected from seven beauty salons in the cities of João Pessoa and Cabedelo, Paraíba, Brazil. The samples were obtained after swabbing the inner walls and/or the flip top lids from 143 packages from seventy-three different hair care products (toner, conditioner, shampoo, highlighter, hair mask, hair moisturizer and hair straightening cream). The collected material was aseptically transferred to test tubes containing nutrient broth, added with 50 mg/L of nystatin and incubated at 37 °C for 24-48h. Growth was verified by turbidity. Aliquots from mixed cultures grown in the nutrient broth were transferred to new tubes containing the presumptive and confirmative media for the detection of Non-fermenting Gram-negative bacilli. After 24-48h of incubation at 37°C, twelve NFGNB strains were isolated and identified by using the Bactray II® kit: seven strains of *Burkholderia cepacia*, three strains of *Pseudomonas aeruginosa* and one strain of *Burkholderia pseudomallei* and *Aeromonas hydrophila*. Although parabens and triclosan were the most common preservatives in formulations, the presence of these microorganisms may indicate a risk of deterioration of the product, in addition to the risk to human health, considering that the formulations were still within the validity period.

Keywords: secondary contamination, cosmetic microbiology, beauty saloon, hair care products

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